

(19)



JAPANESE PATENT OFFICE

## PATENT ABSTRACTS OF JAPAN

(11) Publication number: 11308146 A

(43) Date of publication of application: 05 . 11 . 99

(51) Int. Cl.  
H04B 1/59  
H04B 5/02  
H04L 29/08

(21) Application number: 10112543

(22) Date of filing: 22 . 04 . 98

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(54) NON-CONTACT DATA TRANSMITTER-RECEIVER,  
NON-CONTACT DATA TRANSMISSION AND  
RECEPTION METHOD AND NON-CONTACT DATA  
TRANSMISSION AND RECEPTION SYSTEM

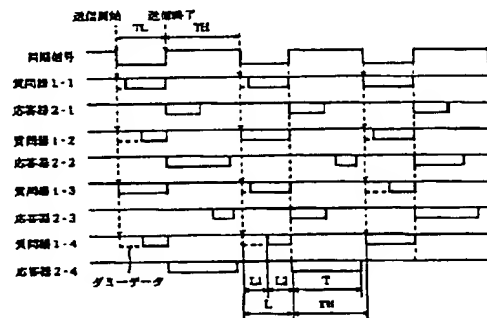
(57) Abstract:

**PROBLEM TO BE SOLVED:** To suppress interference more by adding dummy data on the front side of the transmission data of respective interrogators to respective responders based on synchronizing signals, turning them to a maximum data length, transmitting them within the same period, and after the respective interrogators receive response data from the respective responders within the same period, restarting transmission.

**SOLUTION:** The respective interrogators and the respective responders of a portable type which are these non-contact data transmitter-receivers transmit and receive the data without contacting by a transmission part, a reception part, a data processing part and a control part. Based on the periods TL and TH of the synchronizing signals, the respective interrogators 1-1 to 1-4 add the dummy data on the front side of prescribed data to be transmitted and attain a prescribed maximum data length. Thus, the transmission of the data of the respective interrogators is ended within the period TL, the respective responders transmit the response data to the respective interrogators within the period TH and thereafter, the respective

interrogators start the transmission of the data. Thus, even when the number of the interrogators is increased, data transmission time hardly increases, the interference is suppressed and the antenna interval of the interrogators is narrowed.

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**CLAIMS**


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**[Claim(s)]**

[Claim 1] The receive section which receives the data transmitted, the processing section which performs processing according to the data received by the aforementioned receive section, And it sets to the non-contact data transmitter-receiver which transmits and receives data by non-contact between the carried type transmitter-receivers which have the transmitting section which transmits the response data generated in processing by the aforementioned processing section. The transmit data generation section which adds the dummy data of only the difference of the predetermined maximum data length and the data length of the aforementioned predetermined data to the predetermined data front side transmitted towards an aforementioned carrying type transmitter-receiver, and generates transmit data, The non-contact data transmitter-receiver characterized by having the transmitting section which starts sending of the aforementioned transmit data to the predetermined timing based on the synchronizing signal which has a predetermined period, and the receive section which receives the response data transmitted by the transmitting section of an aforementioned carrying type transmitter-receiver.

[Claim 2] The period of the aforementioned synchronizing signal is a non-contact data transmitter-receiver according to claim 1 characterized by being the time when it is longer than the sum of the air time of the aforementioned transmit data, and the air time of the longest response data in the aforementioned response data.

[Claim 3] The 1st carried type transmitter-receiver which has the receive section which receives the data transmitted, the processing section which performs processing according to the data received by the aforementioned receive section, and the transmitting section which transmits the response data generated in processing by the aforementioned processing section, The transmitting section which is arranged at the predetermined spacing and transmits predetermined data, the receive section which receives the response data transmitted by the transmitting section of the 1st aforementioned transmitter-receiver, And it sets to the non-contact data transceiver technique which transmits and receives data by non-contact between the 2nd transmitter-receiver near the aforementioned 1st of a predetermined number of the 2nd transmitter-receiver which has the control section which controls the aforementioned transmitting section and the aforementioned receive section. Add the dummy data of only the difference of the predetermined maximum data length and the data length of the aforementioned predetermined data to the predetermined data front side transmitted towards the 1st aforementioned transmitter-receiver, and transmit data is generated. The non-contact data transceiver technique characterized by starting sending of the aforementioned transmit data to the predetermined timing based on the synchronizing signal which has a predetermined period.

[Claim 4] A synchronizing signal occurrence means to generate the synchronizing signal with which potential changes periodically, and the receive section which receives the data transmitted, To the 1st carried type transmitter-receiver which has the processing section which performs processing according to the data received by the aforementioned receive section, and the transmitting section which transmits the response data generated in processing by the aforementioned processing section, by non-contact The transmit data which added and generated the dummy data of only the difference of the predetermined maximum data length and the data

length of the aforementioned predetermined data to the predetermined data front side The transmitting section which transmits towards the 1st aforementioned transmitter-receiver to the timing from which the potential of the aforementioned synchronizing signal changes, The non-contact data transceiver system equipped with a predetermined number of the 2nd transmitter-receiver which has the receive section which receives the response data transmitted by the transmitting section of the 1st aforementioned transmitter-receiver, respectively, and has been arranged at the predetermined spacing.

[Translation done.]

